


SWBAT

get ready for Newton's
Laws test

Sep 4-7:31 AM



Welcome!!!

H. Leslie Grebe
Room C-244


SECA CP Physics
Friday 1 April 2016

Centering
(circle)

- Show me SchoolView if you want phone in class...

HOMEWORK: More Free Body Diagrams

Opening Activity: Quick Write

3. 

$mg = W = F_g = 1.0 \text{ N}$

$$\begin{array}{r} -0.10 \text{ N} = m \cdot (-9.81 \text{ m/s}^2) \\ \hline -9.81 \text{ m/s}^2 \quad \quad -9.81 \text{ m/s}^2 \\ \hline m = .010194 \text{ kg} \end{array}$$

$\sum F_x = 0$; $\sum F_y = 1.0 \text{ N down}$

$a_x = 0$; $a_y =$ a_y

$F_{\text{NET}} = m \cdot a_{\text{NET}}$

$0.10 \text{ N} = (.010194 \text{ kg}) \cdot a_{\text{NET}}$

$9.81 \text{ m/s}^2 \text{ down} = a_{\text{NET}}$

Circle: When should we test?

One thing in the past, you know you would be less stressed if it were done, but you couldn't get yourself to do...

One thing you will do for Monday - payoff

Sep 7-7:04 AM

What we should have solid:

Memorize our ~~8~~ vocab cards, units, vector or not, definition, formula

Be able to answer distance vs displacement questions

Be able to make measurements of real-life motion. Know what is likely to make timing things difficult and how to get more reliable timing results

Be able to convert between miles and meters, between hours, minutes, and seconds

Be able to calculate speed = dist/time and velocity = disp/time

Know what all of the symbols in the UAM equations stand for and mean

Be able to turn a UAM word problem into a list of knowns and unknowns

Be able to pick the equation with those 4 things in it

Be able to put the knowns into that equation

(Be able to solve for the unknown)

→ PROJECTILES: v_x IS CONSTANT; $a_y = -9.81 \text{ m/s}^2$ PG 42 v_y CHANGES

PG 43 TIME, Δt , CONNECTS x & y

PG 53 1ST LAW, Δt , CONNECTS x & y

PG 49 VECTORS INTO x & y , ADD VECTORS

SOH - CAH - TOA

PG 59 DIFFERENCE BETWEEN MASS & WEIGHT

PG 61 NET FORCE

PG 63 FREE BODY DIAGRAMS

$$F = m \cdot a$$

PG 70 $F_f = \mu \cdot N$

QW every day to review - gather responses to front board.

Dec 4-9:15 AM

Unit	Chapters	Date
Left-Side Items	Page	Right-Side Items
REFLECTION ON NOTES	2	Ed Adam Savage
HOW FAR FROM BRIDGE	4	"FORT STUEDE"
REFLECTION ON NOTES	6	HAWK: BASIC UNITS
PE: DISTANCE & DISPLACEMENT	8	HAWK: FP DISPLACEMENT
DIAGRAM & STEPS	10	TIMING ERROR
SUMMARY OF TIMING	12	HOW TO BUILD A TABLE
PE: CONVERTING SLOPE	14	HAWK: FP CONVERSIONS
PR: VELOCITY & SPEED	16	HAWK: FP SPEED & VELOCITY
SPEED WORD PROBLEMS	18	ALGEBRA FOR PHYSICS
LAB JOURNAL 10/7	20	LAB JOURNAL 10/8
LAB JOURNAL 10/12	24	HAWK: FP GRAPH POSITION
26 USE FOR PROJECT	21	EXPERIMENT RUBRIC
OBSERVATIONS OF COR	28	FP: INTRO TO ACC.
REVIEW FOR TEST	30	BALL ON RAMP
VECTORS, DIRECTION	32	FP: BASIC ACC EXAMPLE
PRACTICE UAM	34	FP: INTRO TO UAM
FALLING OBJECTS PACKET	36	FP: INTRO TO FREEFALL
MY FREE FALL LAB PROBLEM	38	3-ACT FALLING GLOWSTICK
Toy popper experiment	40	Free fall class solutions
Launched vs. Dropped	42	FP: INTRO TO PROJECTILE MOTION
PROJECTILE SIMULATOR	44	FP: PROJ. MOTION PROBLEM
PROJ'L PRACTICE PROB.	46	PROJECTILES PRACTICE
OUR VECTOR PRACTICE	48	FP - VECTOR COMPONENTS
VECTOR PACKET	50	NOTES ON ADDING VECTORS
MEASURE LAUNCHER	52	NOTES ON FINDING v_f
OBSERVATIONS OF OBJECTS	54	RULES OF PHYSICS NOTES
NEWTON'S 1 ST LAW	58	CONFUSING QUANTITIES
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PACKET: F.B.D.	64	FINDING FACTION IN CART
DATA/MEASURING CART	66	MYTHBUSTERS
MORE PROJECT?	68	VECTOR EXAMPLE
VECTOR ADDITION BY COMPONENTS	70	NORMAL VS. GRAVITY
PHET RAMP-SLIDING	72	FP: 2 ND LAW NOTES
2 ND LAW WORKSHEET	74	Newton's 3 RD LAW

Sep 5-9:09 AM

NOTE CARD VOCAB

- FORCE
- MASS
kg
- SPEED
- ACCELERATION
- INERTIA
- WEIGHT
N

Mar 30-9:52 AM

BACK OF NOTEBOOK:

"PHYSICS CODE WORDS"

MAGNITUDE: SIZE, HOW BIG
VECTORS HAVE MAG. & DIRECTION

HORIZONTAL: SIDEWAYS, LEFT/RIGHT, X-DIRECTION

VERTICAL: UP/DOWN, Y-DIRECTION
"VERY TALL"

AT REST: VELOCITY = 0

CONSTANT SPEED/VELOCITY: BALANCED FORCES,
NET FORCE = 0

Σ : "SIGMA", SUM, TOTAL
ACCELERATION = 0
(+ & -) "NET"


Mar 30-9:46 AM

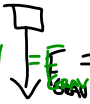
(MORE) DRAWING F.B.D.

$F = m \cdot a_{NET}$ $W = F_{GRAV} = m \cdot g$ $F_{FAC} = \mu \cdot F_{NORMAL}$

$F_{NET} = 9.81 \text{ N up}$ $\sum F_x: 0$ $\sum F_y: 0$

$F_{GRAV} = (1.0 \text{ kg} \times 9.81 \text{ m/s}^2) = 9.81 \text{ N down}$ $a_x: 0$ $a_y: 0$

2. 

3.  $\sum F_x: 0$ $\sum F_y = .10 \text{ N down}$

$m \cdot g = W = F_{GRAV} = .10 \text{ N}$ $a_x: 0$ $a_y =$

$-0.10 \text{ N} = m \cdot (-9.81 \text{ m/s}^2)$ $F_{NET} = m \cdot a_{NET}$

$\frac{-0.10 \text{ N}}{-9.81 \text{ m/s}^2} = \frac{-9.81 \text{ m/s}^2}{-9.81 \text{ m/s}^2}$ $0.10 \text{ N} = 0.12 \text{ kg} \cdot a$

$m = .012 \text{ kg}$

Mar 30-9:59 AM